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(54) RESIDUAL-CAPACITY MEASURING  
APPARATUS FOR STORAGE BATTERY

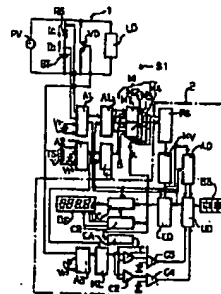
and discharging current, Cr: residual capacity at the previous time, and B: capacity of storage battery).

(57) Abstract:

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PURPOSE: To measure the residual capacities of various kinds of storage batteries by computing the charging and discharging efficiency of the storage battery from the current detection signal from a current detecting means and the temperature detection signal from a temperature detecting means.

CONSTITUTION: An analog-value voltage, which is proportional to a discharging current Ib and a charging current Ic of a storage battery BT, is generated across both ends of a minute resistor RS (current detecting means). The voltage is converted into the digital value with an A/D converter A1. Furthermore, the temperature of the battery BT is detected as the current value by a temperature sensor Ts (temperature detecting means), converted into the digital value by an A/D converter A2 and delivered to a memory M. Then, the operating means (ampere-hour meter 2, the memory M and the like) compute the charging and discharging efficiency N of the storage battery BT from the current detection signal from the current detecting means and the temperature detection signal from the temperature detecting means and compute the residual capacity Cn by the expression (where, t: sampling time, I: charging



$$C_n = ( (t/3600) \times I \times N + C_{n-1} \times B ) \times 100 / B$$

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